

**Statement of Justification
Commission Permit, Special Exception Application and
Minor Special Exception Application for a
Long Term Odor Abatement Facility
Potomac Lakes Parcel H-5
(Tax Map# /81////////116F; MCPI # 010-10-0295)**

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**LOUDOUN COUNTY
DEPARTMENT OF PLANNING**

Summary of Proposed Project

The District of Columbia Water and Sewer Authority (Applicant) proposes to construct an odor abatement facility associated with the Potomac Interceptor sewer. The Potomac Interceptor (PI) is operated and maintained by the District of Columbia Water and Sewer Authority (DCWASA). The PI conveys wastewater from Dulles International Airport along the Potomac River to the border of the District of Columbia (DC). At the DC/Maryland border the PI becomes the upper Potomac Interceptor Relief Sewer (UPIRS), continuing to the Potomac Pump Station in DC and from there to the Blue Plains Advanced Wastewater Treatment Plant in DC. This sewer line also accepts wastewater flows from Loudoun and Fairfax counties in Virginia as well as from several jurisdictions in Maryland and the District of Columbia.

The proposed facility is located in the northwest corner of a 100.63 acre parcel known as Potomac Lakes Parcel H-5. This parcel is zoned PDH-4 and is governed by the Revised 1993 Zoning Ordinance of Loudoun County. The property is located within the Sugarland Run Election District and is owned by the Northern Virginia Regional Park Authority. Also located in the northwest corner of this parcel are a sanitary sewer line and flow measurement facilities owned by Loudoun Water, that are used to convey and meter the amount wastewater flow from Loudoun Water facilities to the PI. The parcel is bordered by Algonkian Regional Park to the north and the Potomac Sportsplex to the west. On the east and south the property is bordered by open space parcels that are associated with the Potomac Lakes subdivision.

The purpose of this application is to obtain a Special Exception to construct an odor abatement facility within the PDH-4 Zoning District and a Special Exception to allow a structure required for the operation of a public utility to locate in the Floodplain Overlay District in accordance with the requirements of Section 4-1506 (D) of the Zoning Ordinance. In addition, a Minor Special Exception to modify the required Type 4 landscape buffer is also included as part of the application. The modifications to the buffer requirements being requested are the use of existing vegetation to comply with the landscape planting requirements and the elimination of the required fence from the buffer area. Use of existing vegetation for the buffer is being requested as the Odor Abatement Facility is located within a wooded area and the project is trying to reduce the disturbance to the existing forest to the extent practicable by minimizing the area of disturbance. The removal of the fence is being requested for the same reason as well as the fact that the fence will distract from the aesthetic qualities of the facility as it has been designed to replicate the appearance of a stone barn at the request of the property owner.

The PI Long-Term Odor Abatement Program will use a combination of active blower treatment units, sealed vents and intake-only vents fitted with passive carbon filters to effectively mitigate the odor problem along the entire PI system. This application is for Site# 46, an active blower treatment facility that is located in Loudoun County.

The objectives of the Long-Term Odor Abatement Program include:

- Provision of Long-Term control of odors in the specific area of the PI by practical, reliable and effective means;
- Maintenance of the integrity of the reinforced concrete sewer pipes by minimizing interference with the design function of the PI vent structures and PI sewer airflow dynamics thereby limiting the formation of corrosive conditions;
- Protection of public health with adequate conveyance of wastewater in the PI system to the Blue Plains Advanced Wastewater Treatment Plant, by maintaining the satisfactory condition of the PI for many decades to come.

Comprehensive Plan Considerations Relative to the Proposed Special Exception; Compliance with Plan Objectives

The Application Property is located in the Potomac Community of the Suburban Policy Area per the Revised General Plan.

The Revised General Plan states that “Water and wastewater treatment and conveyance facilities will be planned, designed and maintained to be compatible with County development and environmental goals while functioning at a high level of efficiency”(Chapter 2, General Water and Wastewater Policy #3).

- *Compliance with Policy: The proposed use supports this policy as project will be compatible with its surroundings while providing a positive environmental impact by addressing odor issues associated with the PI sewer. In addition, the location for the facility is such that it achieves a significant separation from the surrounding residential communities.*

The Revised General Plan states that “New central water and wastewater lines and facilities be constructed in a manner that causes the least environmental risk and visual disruption. Disturbed areas (excluding permanent access easements to reach a facility) should be stabilized with native vegetation. New treatment facilities should be screened with trees, berms, and/or shrubs” (Chapter 2, General Water and Wastewater Policy #12).

- *Compliance with Policy: The proposed facility is sited in such a manner that screening will be provided by existing vegetation to the maximum practicable extent. In addition, it is located immediately adjacent to an existing access road that will allow easy access for both construction and maintenance vehicles while avoiding the impact of additional road construction. All equipment is housed within a building that has been designed to be compatible with its surroundings.*

The revised General Plan encourages architectural cohesiveness in the design of buildings and states “Business land uses will possess adequate on-site parking, storage and loading areas as well as landscape screening of these functions from surrounding neighborhoods. Designers should seek to reduce the potential impact of building size, exterior cladding of the building, signs and other features of an employment use that may create negative visual impacts on the surrounding community. Pedestrian and vehicular circulation systems in and around the business uses will form a safe and convenient network. Outdoor lighting will be designed for effective nighttime use of the facility and to reduce off-site glare to a minimum” (Chapter 6, General Business Land Use Policy #5).

- *Compliance with Policy: Adequate parking and loading areas have been provided immediately adjacent to the facility and the building has been sited to utilize existing vegetation to provide screening from the surrounding neighborhoods. The building has been designed to be just large enough to house the required equipment while providing sufficient area for operational and maintenance considerations. The proposed building style is modeled after the 19th Century Federal Style with stone façade over cinder block wall construction in order to provide a visual appearance that will be in harmony with that of the surrounding areas. The buildings are intended to match the style of the buildings along the C&O Canal. Currently, it is anticipated that no exterior lighting will be provided.*

The Revised General Plan encourages landscape screening of new uses from existing uses by the creation of a landscape edge mitigates visual and environmental impacts. The plan states “Design guidelines will be established to facilitate adequate landscaping, berms, pedestrian access, and environmentally sound stormwater run-off” (Chapter 6, Suburban Parking Policy #10).

- *Compliance with Policy: Existing vegetation will be used to provide screening of the building and parking/loading area resulting in a landscaped edge that will soften the visual impact of the project as well as provide a wildlife habitat area. Gravel will be used for parking area to reduce runoff and the runoff will flow through an existing wooded area that will provide filtration and nutrient absorption.*

The Revised General Plan encourage the incorporation of indigenous vegetation into any new planting areas and states “The County promotes the protection of the County’s vegetative and wildlife resources and the creation of wildlife habitats by encouraging the incorporation of indigenous vegetation into the landscape design of new development and encouraging a compact, concentrated development pattern” (Chapter 5, Plant and Wildlife Habitats Policy #7).

- *Compliance with Policy: The building and associated parking/loading facilities have been designed to produce a compact, concentrated area. Existing vegetation is used for screening and any new plant materials that may be necessary will be indigenous to the extent practicable.*

The Revised General Plan calls for the protection of surface water resources from contamination and pollution to prevent degradation of water quality in the watersheds. The plan states “The County will prepare and implement standards and principles to preserve open space and natural resources, minimize the creation of new impervious areas and to minimize increases in post-development runoff peak rate, frequency and volume. To the extent possible, these alternatives will recognize the unique characteristics of different properties and the densities and uses recommended by this plan” (Chapter 5, Surface Water Policy #16).

- *Compliance with Policy: The proposed project strives to minimize the creation of new impervious surfaces and preserve open space and natural resources by keeping the size of the improvements to the minimum extent practicable. This will also serve to minimize the increase in stormwater runoff and volume. Stormwater discharge will be in the form of sheet flow to the extent practicable in order to minimize potential erosion. In addition, the sheet flow discharge will be directed through a wooded area in order to receive the benefits of natural filtration and nutrient absorption.*

The Revised General Plan encourages the protection of water resource through the use of low impact development techniques as a means to replicate predevelopment runoff conditions. The plan states “The County will promote water conservation through innovative, cost effective reuse systems, domestic water saving devices, and low impact development techniques, which integrate hydrologically functional designs with methods for preventing pollution and through informed household use” (Chapter 5, Surface Water Policy #2),

- *Compliance with Policy: In order to minimize the amount of clearing, filtration devices will be provided for the downspouts in order to function in a method similar to that of a low impact development technique. This will allow for a more compact site and still allow for a hydrologically functional design. In addition, gravel surfaces will be used to the extent practicable and runoff will be directed through vegetated areas that will also provide filtration and water absorption.*

The Revised General Plan encourages the preservation of existing vegetation and wildlife habitat on developing properties. The plan states “The County will develop and apply incentive-based approaches to encourage the preservation of existing vegetation and wildlife habitat on developing properties as a priority” (Chapter 5, Forests, Trees and Vegetation Policy #10)

- *Compliance with Policy: The location and design of the proposed improvements have been done in such a manner that existing vegetation and wildlife will be preserved to the extent practicable while addressing the operational requirements of the facility.*

Zoning Issues for Consideration Relative to the Proposed Special Exception

The responses listed below are provided to address the considerations outlined in Section 6-1310 of the Zoning Ordinance:

(A) Whether the proposed special exception is consistent with the Comprehensive Plan.

Response: Specific references to Plan compliance have been addressed in the section above entitled "Comprehensive Plan Considerations Relative to the Proposed Special Exception; Compliance with Plan Objectives". In summary, development of the proposed odor abatement facility will protect the green infrastructure in the area by minimizing necessary clearing to preserve existing vegetation and wildlife habitat and providing treatment of surface waters to minimize any effects to the watershed while providing improvements to existing infrastructure that serves the needs of the citizens of Loudoun County.

(B) Whether the proposed special exception will adequately provide for safety from fire hazards and will have effective measures of fire control.

Response: The proposed odor abatement facility will be constructed to provide for safety from fire hazards and will have effective integral measures of fire prevention control and fire suppression.

(C) Whether the level of impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.

Response: The level of noise emanating from the site will be consistent with that expected in a residential area. It should also be noted that the facility is located in the northwest corner of the site where it is immediately adjacent to Algonkian Regional Park and the Potomac Lakes Sportsplex where it is as far away from any residential structure as practicable.

(D) Whether the glare or light that may be generated by proposed use negatively impacts uses in the immediate vicinity.

Response: There is no exterior lighting proposed with this project.

(E) Whether the proposed use is compatible with other existing or proposed uses in the neighborhood or adjacent parcels.

Response: The adjacent land is used as the Potomac Lakes Sportsplex and Algonkian Regional Park. In addition, there are sanitary sewer metering facilities owned and operated by Loudoun Water on the same on the same parcel as the proposed facility. All other adjacent parcels are vacant as they are open space parcels associated with residential subdivisions in the area. As the uses in the immediate vicinity are recreational or public utility related, the proposed use is compatible.

(F) Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.

Response: The site is surrounded by significant wooded areas which serve to adequately screen the surrounding uses.

(G) Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.

Response: As determined by a specific site survey and to the best of our knowledge there are no topographic or physical, natural, scenic, archaeological or historic feature of significant importance within the area that will be disturbed by construction.

(H) Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.

Response: Minimal, if any, impacts that will damage existing animal habitat, vegetation or water quality are anticipated. In addition, it is anticipated that air quality will be improved as a result of the reduction of the odor associated with the Potomac Interceptor sewer.

(I) Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.

Response: The proposed facility will contribute to the welfare of the public by greatly reducing odors along the Potomac Interceptor sewer.

(J) Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.

Response: The only traffic generated by the proposed use will be those associated with the operation and maintenance of the facility. It is anticipated that there will be two trips per week for the purposes of inspecting the facility plus one to two additional trips per year for maintenance services on the equipment. Access to the site is via a private gravel road that enters onto Cascades Parkway just north of the Potomac Sportsplex. This access point is locking gate in order to discourage public access.

(K) Whether, in the case of existing structures proposed to be converted to uses requiring a special exception, the structures meet all code requirements of Loudoun County.

Response: There are no existing structures on the site that are being converted to a use that requires a special exception.

(L) Whether the proposed special exception will be served adequately by essential public facilities and services.

Response: The proposed use will be served adequately by essential public facilities and services. Sewer service will be provided by the Potomac Interceptor sewer. Domestic water service will be provided by a proposed well.

(M) The effect of the proposed special exception on groundwater supply.

Response: The proposed use is anticipated to have no negative impacts on the groundwater supply. The property will be developed in accordance with the County stormwater management quantity and quality control requirements.

(N) Whether the proposed use will affect the structural capacity of the soils.

Response: The proposed use will be developed in such a manner that the foundation system for the building will not exceed the structural capacity of the soils.

(O) Whether the proposed use will negatively impact orderly and safe road development and transportation.

Response: *There are no negative impacts anticipated to the roadway/transportation network due to the low level of traffic generated by the use and the fact that the use is substantially setback from any public road and the access point to Cascades Parkway is controlled and conforms to safety requirements.*

(P) Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.

Response: *The proposed odor abatement facility is a public use which will not enlarge the County's tax base. However, employment opportunities will be available for the construction of the facility and the use will provide significant public benefit by improving the air quality in its service area.*

(Q) Whether the proposed special exception considers the needs of agriculture, industry, and business in future growth.

Response: *The Potomac Interceptor sewer addresses wastewater treatment needs of planned and approved business and industry uses within its service area.*

(R) Whether adequate on and off-site infrastructure is available.

Response: *Adequate on and off-site infrastructure is available to serve the site.*

(S) Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.

Response: *The purpose of the proposed facility is to remove and control the discharge of odorous gas generated by the Potomac Interceptor sewer. It is anticipated that the facility will provide a positive impact on a large area.*

(T) Whether the proposed special exception uses sufficient measure to mitigate the impact of construction traffic on existing neighborhoods.

Response: *Access to the site will be primarily through the Algonkian Parkway and Cascades Parkway. As this is the case, there is little or no impact anticipated on existing neighborhoods or schools. Also, due to the small scale of the project, it is anticipated that there will be small amount of construction related traffic generated by the site.*

The responses listed below are provided to address the standards outlined in Section 4-1507 of the Zoning Ordinance:

(A) The proposed use will not increase the danger to life and property due to increased flood heights or velocities.

Response: The width of the reduction in conveyance area created by the proposed odor abatement facility in the Potomac River floodplain will be approximately 30 feet and the depth will be approximately 10 feet, resulting in a cross sectional area of approximately 300 square feet. The width of the floodplain on the Virginia side only at this point is approximately 3000 feet. It is anticipated that the net effect of this loss of conveyance area will be so negligible that there will no discernable increases in the flood height or velocity and, therefore, no increase in the danger to life and property due to increased flood heights or velocities.

(B) The proposed use will not increase the danger that materials may be swept downstream to the injury of others.

Response: Any materials stored on site will be within the building. The floor elevation of the building will be placed above the 100 year flood elevation and the design of the building will take into account flood related stresses. As this is the case, it is not anticipated that there will be any increase in the danger that materials may be swept downstream.

(C) The proposed water supply and sanitation systems are designed to prevent disease, contamination, and unsanitary conditions.

Response: The function of the proposed facility is to remove and control the discharge of odorous gas generated by the Potomac Interceptor Sewer. It does perform either water or wastewater treatment and, therefore, it is anticipated that there will be little potential for disease, contamination or unsanitary conditions.

(D) The proposed use or structure must be located and designed to limit its susceptibility to flood damage, and available alternative locations, not subject to flooding, for the proposed use must be considered.

Response: Due to the nature of its function, the facility must be located near the Potomac Interceptor Sewer. A study was done of the entire Potomac Interceptor Sewer to determine the number and placement of the odor abatement facilities that would be required in order to have a successful odor abatement program for the entire system. The proposed location for this facility is based on that study. Because the majority of this parcel is encumbered by floodplain, there are no locations outside of the floodplain that are close enough to the sewer to be practicable.

(E) The proposed use is compatible with existing and planned development.

Response: Please see response for item (E) under the discussion of considerations outlined in Section 6-1310 of the Zoning Ordinance above.

(F) The proposed use is in harmony with the comprehensive plan.

Response: Please see response for item (A) under the discussion of considerations outlined in Section 6-1310 of the Zoning Ordinance above.

(G) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site should not cause significant damage.

Response: *It is anticipated that any effects on the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site will be negligible and, therefore, should not cause significant damage. See response under item (A) above.*